



LANDSAT 7 MONTHLY UPDATE

The Landsat 7 Mission, developed by the National Aeronautics and Space Administration, is managed by the U.S. Geological Survey under authority established by Presidential Decision Directive NSTC-3.

Program News

Landsat Metadata

Metadata from Canada, Australia, South Africa, Japan, and Europe continue to be archived successfully. As of December 28, 2001 there were 6965 L7IGS subintervals archived for 114,629 Landsat 7 Worldwide Reference system (WRS) scenes. IGS metadata from China (BJC) has been tested successfully, and will be released to the public in January 2002. Argentina (COA) is installing new software next month, after which they will resume IGS metadata testing. Tape ingest for IGS metadata and browse remains scheduled for the first quarter of 2002.

LDCM Mission Procurement Under Way

NASA and the USGS have teamed up to implement the follow-on to the highly successful Landsat 7 mission. The follow-on is the aptly named Landsat Data Continuity Mission, or LDCM. As directed by public law, this mission is being pursued as a government-commercial partnership, via a two-step procurement. NASA issued the Request For Proposals for the first step in November of 2001. The results of this first procurement should be announced in early 2002. The successful bidders will then carry out a nine-month mission formulation activity in preparation for a second procurement for the LDCM data.

Landsat 7 Year-end Transition Incident

In the first few milliseconds of every year, the Landsat 7 spacecraft performs a script with a rapid-fire series of commands to reset itself for the new year. This actually involves changing multiple parameters, all intended to bring the clock from day-of-year (DOY) 365 back to DOY 1. Among these commands are several which tell the spacecraft where it is in relation to the earth through reference to the ephemeris table. With this information, it can properly orient itself for nadir viewing.

Unfortunately, complications arose during this year's transition as a result of an unusual Monday (DOY 365) delta-velocity maneuver. The post-burn ephemeris file loaded on the spacecraft did not match that expected for DOY 1 by the script. Consequently, the end-of-year commands pointed the on-board software to an incorrect place in the file, causing the satellite to incorrectly calculate its location in space. Fast action by the Flight Operations Team (FOT) prevented any serious problems, but not before the instrument 'safed' itself. This resulted in a warming of the ETM+ cold stage, preventing normal operations for about 24 hours. As of DOY 2/00:00:00, the spacecraft was in its nominal configuration and running standard operations.

Technical News

Data Validation

While no new ground stations were validated during the month of December, the scheduled biannual validations have continued. The Kiruna, Sweden and Neustrelitz, Germany ground stations have both provided Raw CC data to the USGS and are at some stage of the biannual validation process. Two active IGSs, Indonesia (L0Rp) and South Africa (L0Rp), have yet to be successfully validated. Refer also to the Data Validation chart in the November Update.

L7 ETM+ Floating Scene Products Coming Soon

Currently, the USGS EROS Data Center (EDC) distributes only single WRS scene ETM+ data products. In early February 2002, EDC is planning to offer "multi" or "floating" scene products to customers. The January release will include 0.5 to 10 scene L0Rp products delivered through several media options: FTP, CD-R, DVD-R, 8mm and DLT tape. In April, EDC plans to offer multi / floating scene Level 1 data products. Customers will be able to choose from a 0.5 to 3-scene swath for the Level 1 products.

Meetings

LTWG Meeting Scheduled

The 11th Landsat Technical Working Group (LTWG) meeting will be held February 4-8, 2002 in Canberra, Australia. USGS managers will present a report on the health and status of the Landsat 5 and 7 programs. Group discussions will focus on the maturing of the system from reception and archiving to processing changes. Attendees will tour the ACRES facility, then travel to Tidbinbilla to visit NASA's Deep Space Network station. During the meeting a special dinner will be held to honor Robert Denize, ACRES Chief Engineer, who will be retiring at the end of February.

The Landsat monthly update is an informal communication tool, prepared monthly and distributed electronically to USGS Landsat partners, to provide information about Landsat activities and related topics of interest. Comments, corrections, and queries may be directed to Ronald Beck, USGS Landsat team, at the following e-mail address: beck@usgs.gov.

U.S. Geological Survey